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**CONFLICTS IN EAST-WEST TRADE AND TECHNOLOGY TRANSFER (1949-1989):
WERE EXPORT CONTROLS WORTH THE COSTS?**

by

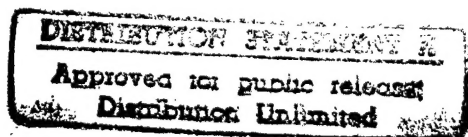
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I firmly believe that the transfer of technology to the Soviet bloc can and must be stemmed. . . . Relying on Western innovation alone, without trying to stop the flow of innovation to our adversaries, would be a naive policy based upon an infinite confidence in American science and technological superiority. . . . Blind faith of that sort would be an American Maginot line waiting for another Sputnik-like innovation to blow it away. The Soviets would have our innovations and theirs, and the West would stand defenseless.¹

[The Soviet Union's] poor record of technological innovation is not due to a lack of bright or well-educated people. It is due to oppressive regulation, the weight of an inflexible bureaucracy, and the fear embodied in excessive secrecy. . . . It would be tragic, indeed, if in seeking to protect ourselves from the Soviet threat we established laws and regulations that made us as ineffective as the Soviets are in technological innovations.²

Our export control policy [fails] to acknowledge that a critical element of a sound national defense is the strength of the U.S. economy and the competitiveness of U.S. exports. A vibrant economy and, more specifically, a healthy high-technology sector provide the necessary infrastructure for a strong defense. . . . The lost markets, reduced production, lost jobs, and forgone revenue resulting from excessive and unfocused export controls not only affect U.S. economic strength but also weaken our national defense.³

These ardent statements encapsulate the opposing sides of a debate that engaged collective Western governments for 40 years: how to balance the conflicting interests of economic benefits against security risks inherent in trade with adversaries. Although the degree and tenor of the debate within and between the Western nations have varied considerably—ranging from tranquil harmony to cacophonous acrimony—its fundamental parameters have remained constant. Using a coordinated system of peacetime export controls, the United States and its allies have sought to regulate the flow of militarily significant technologies and products to communist countries since November 1949. The debate has focused primarily on the nature and the efficacy of the controls; that is, on the means to the end of safeguarding collective Western security. On one hand, weak or nonexistent export controls would threaten Western security by enhancing the military capability of inimical states, principally the Soviet Union and its Warsaw Pact allies.

Controls strong enough to completely prevent the export of technologies and products from West to East, on the other hand, would weaken Western economies, cripple the ability to generate new technology, create needless rifts in the Western alliance, and actually endanger Western security interests in the process—destroying what the export controls were designed to protect in the act of protection.

This paper will outline the evolution of U.S. and Western export control policies from its origins at the beginning of the Cold War to the present in sufficient detail to offer an answer to the following central question: Were the export control policies adopted by the United States and its Western allies worth the associated economic and political costs? Answering this question begs an examination of a host of other questions: What unilateral , and multilateral export controls were established by the Western governments, what objectives did they seek to achieve, and how have controls and objectives varied over time? What conflicts arose over the choice of collective controls and how were they resolved? What roles did unilateral export controls play and to what extent did they undermine or enhance the collective process? How effective were the controls in preventing the transfer of militarily significant technologies from West to East? What were the relationships between the power, the politics, and the policies of export controls?

This paper will begin its examination of these issues by first describing the 1949 establishment of the collective Western export control organization that is universally referred to as CoCom. Because a sound understanding of CoCom is critical to the central question of this paper, it will describe in considerable detail the rationale for CoCom's existence, its organizational characteristics, and why CoCom chose the export control strategy of economic warfare during its early years. Next, the evolving relationships and policies of CoCom will be studied by analyzing the major shifts that occurred during four time periods: 1954-1957, 1958-1968, 1969-1979, and

1980-1989. Initially, the paper will assess the 40-year history of the multilateral export control regime and proffer an answer to the central question: Was it worth the costs?

Origins of CoCom and the Waging of Economic Warfare (1949-1954)

Within a few years after the end of World War II the prevailing Western image of the Soviet Union had changed from that of a wartime ally to that of a hostile threat.⁴ Although the change did not occur overnight, by 1948 the emerging Cold War had convinced the Truman administration that the strategic risks of East-West trade far exceeded any potential economic or political benefits. Consequently, beginning in March 1948—and certainly consistent with the Truman Doctrine first enunciated twelve months earlier—it actively pursued administrative actions intended to restrict U.S. exports of products, technologies, and equipment that it felt would enhance the military capability of the Soviet Union.⁵ Congress strongly supported Truman's economic strategy and in February 1949 it enacted the Export Control Act, the first time in U.S. history that control of exports in peacetime had been established by law. Congressional and public support was so strong, in fact, that the Act gave the Executive unprecedented powers to control American commerce—powers that still exist nearly half century later. The President can prohibit all U.S. exports in peacetime for reasons of national security or foreign policy or to prevent domestic economic shortages.⁶ As will be discussed below, application of the Act has shown that it is difficult to conceive of a single case in which export controls could not be justified by at least one of these criteria. The Truman administration—otherwise committed to the postwar policy of free trade and minimal governmental influence in the marketplace—immediately applied an export control strategy that unilaterally restricted nearly

all American exports to the Soviet bloc. Thus began the antagonistic bipolar international economy that would become an enduring symbol of the Cold War that would last 40 years.

Nevertheless, administration leaders recognized that the effectiveness of the new U.S. export control strategy required the collaboration of America's recovering Western allies, who could potentially serve as alternative suppliers of the restricted exports. This became especially true after the establishment of the defensive military alliance—the North Atlantic Treaty Organization (NATO)—in August 1949 formalized Western recognition of a monolithic security threat posed by the Soviet bloc, since U.S. efforts to increase the effectiveness of NATO included the direct transfer of military technology and equipment to other NATO members. Consequently, the Truman administration initiated a series of bilateral negotiations between the United States and the West European governments an attempt to expand the unilateral provisions of the Export Control Act into multilateral enterprise. These negotiations resulted in the formation in November 1949 of a multilateral regime known as the Coordinating Committee on Multilateral Export Control (CoCom).⁷

CoCom's principal activity remained constant throughout the Cold War: "have its national delegations agree on a list of technologies and products that they as individual nations will control in their trade to certain countries for reasons of national security."⁸ Placing items on or removing items from the control list required the unanimous consent of the CoCom members. For reasons discussed below, CoCom has never enjoyed formal treaty status, charter, nor power to impose sanctions against violators; its deliberations and decisions are not made public. Although the CoCom organization was the quintessential "gentleman's agreement," each member recognized that any violation of the export controls would be a serious matter involving both economic and security interests. That is, a transgression by any single CoCom member would not only

jeopardize the security concerns of all other members, but would also place complying members at an economic disadvantage. Compliance, though voluntary, was clearly necessary, if this "gentleman's agreement" was to survive. Despite CoCom's apparent weaknesses, however, by January 1950, each member nation began an unconditional embargo of 144 items to the Soviet Union and Eastern Europe, executing for the first time the explicit strategy of multilateral denial of militarily significant technology and products.⁹

Somewhat surprisingly, a precise definition of "militarily significant" had proven to be the most contentious matter for CoCom negotiators to resolve. In fact, the definition of "militarily significant" has varied throughout the existence of CoCom.¹⁰ The explanation for this involves several interrelated elements which provide much of the basis for understanding the relationships between the power, the politics, and the policies of export controls.

For example, the definition a nation chooses for "militarily significant" defines the very nature of the export control policy it will pursue. Throughout its 40-year history, CoCom generally followed one of two export control policies: *economic warfare or strategic embargo*.¹¹ As its name implies, economic warfare is the waging of hostilities against an adversary by economic rather than military means. Its objective is to weaken the economy of the target state by denying it the benefits of international economic trade in order to weaken its military capabilities. The underlying assumption of using economic warfare as a strategic instrument is that the additional resources released by trade with an adversary are ultimately devoted, at least in part, to military pursuits which results in a measurable increase in the a adversary's capabilities. The intent of the 1949 Export Control Act was economic warfare: "The language of the Act was clearly consistent with the control of items with only indirect military utility."¹² A strategic embargo, on the other hand, does not attempt to weaken the economy of the target state. Rather,

it attempts to prevent the export of only those items that make a specific contribution to target state military capabilities. That is, it prevents the export of items that enable a target state to achieve an otherwise unattainable military capability.

When placed in the context of the nascent CoCom negotiations, the United States wanted to implement multilateral economic warfare against the Soviet Union and Eastern Europe consistent with the unilateral Export Control Act. The U.S. allies were exceedingly hesitant to do so, preferring, at most, a strategic embargo. Their hesitancy rested on political, policy, and pragmatic reasons. Many states expressed serious political concern over the domestic and international implications of what might be perceived as a peacetime agreement to engage in economic warfare. Moreover, the West Europeans demanded that NATO not be coupled with CoCom, reasoning that such linkage would suggest an offensive posture and risk provoking the Soviets. Therefore, the United States reluctantly agreed that CoCom's workings would be kept confidential, informal, and decoupled from NATO. These institutional arrangements—which have characterized CoCom for 40 years—thwarted U.S. efforts to ensure the ascendancy of defense issues over economic concerns in the control process. The Western Europeans' policy concerns centered on their belief that economic warfare would neither put an end to communism nor weaken the Communist countries' military capability. Therefore, they argue strenuously that items such as coal-mining equipment, for example, should not be on the list of proscribed exports. More pragmatically, CoCom's European members had a traditional and much larger stake in trade with Eastern Europe than did the United States, amounting to as much as 10 percent of total West Europeans exports in 1948.¹³

Thus, U.S. officials had to compromise and accept the CoCom ground rules of confidentiality and informality. They also acceded, at least temporarily, to keeping items judged

by West European governments to be of doubtful strategic value off the international list of forbidden exports. Nevertheless, CoCom members yielded to American insistence that the overall export control strategy be economic warfare. Given the considerable concerns of the West European members of CoCom, it seems remarkable that they agreed to participate in economic warfare in 1949. Indeed, in 1950-51, the European CoCom members acquiesced to U.S. pressure to nearly double the number of restricted export items.¹⁴ However, several factors help to explain their initial cooperation with the American strategy of economic warfare.

First, the massive U.S. economic and military aid to Western Europe more than compensated for lost trade with Eastern Europe.¹⁵ Moreover, a profound shift in the East-West trade preferences of Western Europe occurred during the middle of 1950. Prior to that time, the allies had not accepted the underlying premise of the Export Control Act—that the Soviet Union was a belligerent state whose economy served as a mobilization base for the military sector—which served as the rationale for economic warfare. The “rapid pace of events” in 1948-1950, however, convinced many U.S. allies that the Soviet Union was preparing for a massive conventional attack of Western Europe.¹⁶ Consequently, for the first time since the end of the war, West European governments subordinated economic recovery to that of security needs, and the U.S. linkage between the Soviet economy and the Soviet military gained credence. From this perspective, their participation in economic warfare became merely an adjunct to their rearmament programs. Moreover, alarmed by what was perceived as an imminent Soviet military threat, the European CoCom members readily agreed to enlarge the control list to include items with only indirect military utility.

Thus, U.S. officials had achieved what they had sought in the spring of 1949: the expansion of unilateral U.S. economic warfare declared by the Export Control Act into multilateral

economic warfare. However, West European support for cooperative economic warfare against the Soviet bloc only lasted about five years. The United States would soon discover that the acceptance of CoCom as an informal gentleman's agreement as a result of Cold War exigencies would decisively affect the evolution of both U.S. and alliance export control policy.

The Demise of Economic Warfare and the Rise of I Discord in CoCom (1954-1957)

Following the end of hostilities in Korea, the European members of CoCom, led by Great Britain, called for a shift in the organization's export control policy from economic warfare to strategic embargo.¹⁷ In early 1954, no less a Cold Warrior than Prime Minister Winston Churchill urged expansion of trade with the Soviet Union of non-military goods as a "counterpoise to purely military calculation."¹⁸ To the West Europeans, the threat of imminent war had disappeared and the justification for economic war had disappeared with it. That is, since the Soviet economy no longer seemed singularly devoted to war preparation, the export of items previously held to be strategic, such as copper and petroleum, could now be viewed as supporting primarily the civilian component of the Soviet economy. Moreover, by 1954 the West European economy was recovering and seeking export outlets, and the traditional East European markets were a lucrative target. Consequently, the British delegation to CoCom suggested cutting the control list in half.

U.S. officials, on the other hand, remained firmly committed to a policy of economic warfare and pressed CoCom to continue to control items the United States considered to be important to the industrial base supporting the Soviet military. The West Europeans summarily rejected this request which they viewed as strategically unnecessary, politically harmful, and economically costly. Instead, CoCom members agreed to focus controls more narrowly on items

used mainly in military production and to terminate controls on items of mainly industrial or civilian importance. The only concession the allies reluctantly made to the United States was to maintain economic warfare against China even as they relaxed controls against the Soviet bloc (the so-called "China differential" or maintenance of two different control lists). Thus, unlike 1949, the United States yielded to Western European demands and in 1954 the overall CoCom export control strategy shifted to strategic embargo. The reasons for U.S. acquiescence demonstrated the limits on the ability of the United States to dominate CoCom control preferences and established a precedent that would continue for four decades.

The United States acquiesced despite the fact that U.S. executive officials possessed a number of coercive tools they could have applied in an attempt to force the other CoCom members to continue the strategy of economic warfare. For example, the Export Control Act allowed executive officials to deny U.S. exports or to cut off military aid to any state that traded the same goods to the Soviet bloc. Such coercion was never used, however, for the United States—though a firm believer in the benefits of economic warfare—deemed that the political cohesion, and military and economic strength of NATO were more critical to its national interests.¹⁹ Eliminating military aid would seriously undermine U.S. defense objectives to build up the conventional force structure in Europe, while denying either military aid or trade would create deep resentment in Western Europe in threaten the political cohesion of the alliance. President Eisenhower, in particular, championed the support of NATO in NSC meetings, where he often called multilateral cooperation "the best defense against Communism."²⁰ Thus, the informal organization of CoCom limited U.S. efforts to strengthen it, and the United States was unwilling to jeopardize the survival of CoCom and ultimately NATO by resorting to coercion to enforce its desired strategy of economic warfare.

Nevertheless, despite CoCom's shift to a strategic embargo in 1954, the United States continued to wage economic warfare unilaterally, largely at the urging of Congress as well as the Department of Defense. This, too, established a precedent—inconsistent leadership—that had unfortunate consequences and deserves further analysis. U.S. officials recognized that without multilateral cooperation, economic warfare pursued by the United States alone would have little influence on the Soviet economy and even less on the Soviet military. Thus, economic warfare became essentially a political statement—a symbol of U.S. resolve in the Cold War—rather than a policy that had direct strategic implications.²¹

Moreover, CoCom maintenance of the “China differential” soon turned into a political statement as well: items covered by the differential were shipped from the West to Eastern Europe and then to China. Unless CoCom members chose to restore economic warfare against the Soviet bloc—something they were unwilling to do—additional controls applied solely to China would clearly fail. By 1955, Great Britain, France, and Japan clamored for elimination of the China differential, since they were loath to give up economic opportunities in trade with China for political purposes. That is, since the differential could not possibly yield strategic results, they argued, there could be no justification for economic sacrifice. Even though U.S. officials accepted the logic of their argument, they still urged retention of the differential, for to lift it would appear to reward China for its belligerence in Korea. Great Britain refused to be swayed and instead threatened to make repeated use of the “exceptions” procedure.²² And, indeed, exceptions for export to China soared from \$3 million in 1954 to \$79 million in 1956. When that ploy failed to reverse the U.S. position, Britain unilaterally abolished the differential. By January 1958, the rest of cocoa did likewise, making the China differential moot.

The case of the China differential provides a clear example of three behavioral trends the United States would sometimes display in its relations with CoCom for the next thirty years: (1) a failure to lead consistently, (2) a tendency for stalemate-producing interagency conflicts within the Executive, and (3) an insensitivity to the economic costs of exports controls. Such conduct significantly constrained the ability of the United States to effectively lead CoCom, ultimately affecting the degree of cooperation within the organization. First, by inconsistently applying controls—starting with strategic reasons, then switching to strictly political reasons—U.S. officials compromised the integrity of the control process. Second, the China differential crisis created intractable interagency conflicts. The State Department had attempted to accommodate the allies as soon as they lobbied for change. Defense officials, however, proved intransigent regarding lifting export controls on China so soon after the Korean War. The resulting stalemate lasted nearly three years, provoking the allies to act unilaterally, opening defying CoCom.²³ Finally, the United States considered the economic costs of export controls parochially. That is, lost U.S. trade to China was considered to be insignificant: no more than \$75 million per year. And to the world's greatest economic power, such a burden *was* insignificant. But for other CoCom members still struggling to recover from the war, such trade could be vital. All three of these behaviors would recur in the future, and when they did, CoCom effectiveness would decrease just as it had in 1954-1957.

Nevertheless, CoCom survive its first decade, even if that eventuality must have seemed doubtful to observers during the height of the China differential crisis. The United States displayed inconsistency in leadership and was unable to sustain support for multilateral economic warfare. Interagency conflicts within the Executive as a result of urging strategic controls on CoCom members that could only be justified politically were especially damaging to the

effectiveness of CoCom. However, the United States would not attempt to force its will on other CoCom members to such an extent in the 1960s, and as a result CoCom would become stronger and more effective. U.S. officials would, however, attempt to modify its own export control policy of economic warfare in the decade to come.

CoCom s Strategic Embargo and the Modification of U.S. Export Policy (1958-1968)

The continued unilateral pursuit of economic warfare by the United States, despite the rejection by CoCom of economic warfare in 1954, proved problematic for U.S. officials.²⁴ By the late 1950s they were searching for alternatives to their export control strategy, a search that brought the Executive and Congress into conflict and required a decade to accomplish. Thus, the 1960s was a time of adjustment for American export policy. Nevertheless, it was also a time of strengthening the CoCom organization. Unlike the period from 1954-1957, skillful U.S. leadership fashioned CoCom into an effective tool for managing the control of Western exports. This section discusses these developments, describes the search for an alternative export strategy, and examines the resulting conflict between Congress and the Executive.

The most striking feature of CoCom in the 1958-1968 period was the absence of the political friction that had so dominated the previous decade. There were no debates over the purpose and direction of the embargo and relations among CoCom members were harmonious. A general round of list reductions occurred in 1958,²⁵ four years after the last contentious list reductions were completed. This time, though, completion of the list unambiguously reflected the preferences of U.S. allies, since the United States now accepted the necessity of a narrowly limited, consistently applied strategic embargo.²⁶ The member delegations carried out their detailed, technical work and administered the embargo with little or no controversy in a routine

manner. List reviews were conducted annually and they, too, became a matter of routine. More frequent reviews assured the list reflected the militarily relevant technological advances made by the West and the Soviet Union, such as the addition of certain integrated circuits. The fact that use of the "exceptions" procedure decreased significantly even as the trade with the East increased dramatically demonstrates the harmony that existed among the CoCom members.

CoCom's stability can be primarily attributed to the effective leadership displayed by the United States. First, U.S. officials set a domestic example by minimizing exceptions and maximizing enforcement. Second, the United States continued to ensure that the main non-CoCom suppliers—Switzerland and Sweden—did not frustrate CoCom controls by exporting or reexporting controlled items to the East.²⁷ Third, and perhaps most importantly, U.S. officials accepted that to qualify as strategic, items subject to export control needed to be directly related to the peacetime production and capabilities of the Soviet bloc. By accepting the more narrow criteria and the control of fewer strategic items, the United States reduced the economic, administrative, and political burdens of participation in CoCom. Finally, U.S. leadership was buttressed by the clear technological superiority enjoyed by the United States. Under the very broad control criteria of the 1950s, other CoCom members could manufacture and export most of the items on the list. Under the far narrower criteria of strategic embargo, however, only the United States possessed the necessary means to produce the dual-use items that included advanced technologies. Moreover, because the U.S. government increasingly played a larger role in the development of such technology, it had the ability to identify critical technologies early and get them added to the list before commercial applications had been developed. The end result of this effective U.S. leadership was an effective, cooperative CoCom.

CoCom's effectively managed strategic embargo, however, served to highlight the inconsistencies of the unilateral export control system of the United States. The rapid expansion of West European and Japanese exports to the Warsaw Pact since 1954 clearly discredited the efficacy of the U.S. unilateral efforts. Moreover, as will be shown below, given the self-sufficiency of the Soviet Union, even a sustained attempt at multilateral economic warfare by CoCom would not significantly hinder the economic development of the Soviet bloc. Thus, unilateral economic warfare by the United States yielded neither economic nor strategic benefits. This dilemma left the United States searching for alternatives to its export strategy.

The growing East-West trade, itself, was due to the deliberate actions by the Kremlin to import technology and capital goods from the West as part of its over strategy of "overtaking" the capitalist nations economically. Although invited to participate, the United States was unwilling for political reasons. Other CoCom members, though, had no such political reservations about trading with the Soviets. In exchange for Soviet raw materials, they exported machinery, equipment, even whole factories installed and equipped on-site in the Soviet Union, exporting not only material but technology in the process.²⁸ The players in this growing market included the European subsidiaries of U.S. multinational corporations making it impossible to justify on economic grounds the continuation of unilateral economic warfare.

Neither could unilateral economic warfare be justified on strategic grounds: Soviet economic growth clearly had not been disabled by the embargo. Secretary of State Dean Rusk publicly acknowledged in 1964 that the Soviet Union had become "a largely self-sufficient economy with a broad industrial base and a well-developed technology."²⁹ Indeed, an earlier 1961 CIA study found that even if all members of CoCom waged sustained economic warfare on the Soviet bloc, it would have minimal effect on the Soviet economy and no effect on the Soviet

military. Not surprisingly, a CIA analysis of the impact of continued unilateral U.S. controls showed it to be an exercise in futility. Given this information, President Kennedy asked the State Department to provide a comprehensive review of U.S. policy and formulate a coherent strategy.

Completed in July 1964, the review conceded that in contrast to U.S. beliefs in the 1950s, the amount of Western exports to the Soviet Union did not threaten the military security of the United States or NATO. Economically and strategically, the Soviet Union was impervious to either unilateral U.S. economic warfare or trade liberalization. Simultaneously, U.S. trade controls had minimal economic significance on the U.S. economy. Nevertheless, the State Department was convinced that trade liberalization could reap significant *political* benefits for the United States. The rationale for this seeming paradox was an export control strategy that could serve as an alternative to the strategy of economic warfare: the strategy of *tactical linkage*.³⁰

Tactical linkage is an export control strategy intended to condition or calibrate trade according to changes in target behavior. Whereas economic warfare and strategic embargo both restrict trade in one form or another, tactical linkage can either restrict trade as a punishment for bad behavior or promote trade as a reward for good behavior. As an alternative to the U.S. strategy of unilateral economic warfare, tactical linkage could be used to adjust U.S. policy conditionally in order to serve political objectives. This alternative would use the act of adjustment, itself, together with the pledge of increased trade, to gain political benefits from the East. Trade, therefore, would primarily be an instrument of politics, not economics.

State Department officials believed the adjustment of trade controls via the strategy of tactical linkage could give the United States leverage in political bargaining with the Soviets. The reasoning behind this conclusion rested on the *symbolic*, rather than economic, importance of U.S. trade controls. For the Soviets, trade controls were a political insult, a symbol that the

United States treated the Soviet Union as less than equals in the international community. For that reason, the Soviets attached an importance to normal trade relations far greater than the actual economic stakes warranted, for they equated "peaceful relations" with "trade relations." The State Department analysis also revealed an important corollary to the strategy of tactical linkage—one that had profound consequences for CoCom: because the source of U.S. trade leverage was symbolic, the effectiveness of a tactical linkage strategy was independent of cooperation with U.S. allies. That is, the Soviet Union was not interested in trade, *per se*, rather it was interested in *American* trade.

This export strategy devised by the State Department seemed an attractive alternative to the futility of economic warfare. Tactical linkage became the preferred strategy of both the Kennedy and Johnson administrations, although their desire to execute it was thwarted by a Congress that, given the Vietnam War, favored a policy of *no* trade with the Soviet bloc. What the Executive viewed as "building bridges," members of Congress (and their constituencies) viewed as trading with the enemy. Theoretically, the Executive had the power to alter U.S. export strategy to one of tactical linkage. The Johnson administration made a step in that direction in 1966 by removing over 400 items from the U.S. export control list, making it nearly equivalent to the CoCom list. However, effective *implementation* of tactical linkage required two related foreign policy tools that only Congress could grant: official export credits and Most Favored Nation (MFN) status. Johnson was unwilling to risk support for his "Great Society" program by actively lobbying for such powers. The struggle to modify U.S. trade policy would therefore continue until the end of the decade and the inauguration of President Nixon.

Thus, although the Executive enjoyed considerable success in the 1960s in providing effective leadership for an effective and harmonious CoCom, it could not significantly alter the

futile unilateral U.S. export control strategy of economic warfare. Clearly, a harmonious CoCom, although indicative of good relations with U.S. allies, did not guarantee harmonious domestic relations between Congress and the Executive. Nevertheless, the decade not only witnessed the strengthening of CoCom but also the development of an alternative strategy to economic warfare: tactical linkage. The next decade would determine how well implementation of tactical linkage would in fact, serve the United States, its allies, and CoCom.

Détente, Tactical Linkage, and Decline of CoCom's Strategic Embargo (1969-1979)

The decade-long struggle to modify U.S. export control strategy finally ended with passage of the Export Administration Act (EAA) in 1969 and U.S. export control strategy eventually shifted from economic warfare to tactical linkage.³¹ The EAA permitted the U.S. to approach the Soviet Union in a dramatically different fashion in the 1970s. Both the Nixon and Carter administration attempted to use the expansion of U.S. trade and technology transfer as a means for influencing Soviet behavior. This expansion of trade opened new markets for U.S. firms, but for political, not economic purposes, and eventually the competitiveness of U.S. firms suffered in the process. Moreover, CoCom became less effective as, once again, U.S. leadership proved to be inconsistent as its new policy of tactical linkage sometimes took precedence over the maintenance of CoCom objectives. This section traces these developments including a description of the EAA, the Executive's employment of tactical linkage, the cause of the loss of competitiveness of U.S. business firms in the newly opened markets, and the erosion of CoCom's effectiveness.

In passing the EAA in 1969, Congress rejected the economic warfare objective of the 1949 Export Control Act. Although the Executive could still restrict exports for reasons of

national security or foreign policy, the EAA provisions would deny export licenses only if a product would significantly contribute to a potential enemy's military capability and only then if a product could not be obtained from a foreign supplier. In other words, the policy of economic warfare was replaced with a policy of limited strategic embargo. In an era of growing concern with potential trade deficits, it placed a new emphasis on expanding existing American export markets and opening up trade to the Eastern bloc. In fact, the EAA was carefully crafted to help U.S. business firms compete more effectively with Western European and Japanese firms in the competition for Eastern markets. However, despite the intent of Congress, the EAA did not achieve any of its intended results for three years, and many were never realized.

The principle reason for the slow liberalization of trade was that the EAA left the implementation of export control policy where the Export Control Act had first placed it—in the hands of the Executive. And the Nixon administration would not relax export control rules without first receiving a political quid pro quo from the Soviets. Although it was clearly not the intent of Congress when it passed the EAA, the administration would follow an export control strategy of tactical linkage: trade was a political instrument; economic objectives were of secondary importance. Thus, the administration planned to only slowly open up trade relations with the Soviets, reserving the full normalization of economic relations the Soviets desired as a reward to be granted only after the administration's political objectives had been met. These political objectives included ending the war in Vietnam, concluding a nuclear arms control agreement, and maintaining stability in Europe. The Soviet Union could help the administration achieve all these goals.

Consequently, the Nixon administration resisted both private and governmental pressure to quickly liberalize economic relations. Only after both the Four Power Berlin Agreement³² and

the SALT I treaty were signed, and Brezhnev had promised the United States he would pressure the North Vietnamese to make a serious effort to reach a negotiated settlement, did the administration agree to begin negotiations on a bilateral trade agreement. Even then, final approval of the treaty was withheld until the Viet Cong agreed to a cease-fire. The treaty was finally signed in October 1972. It granted mutual MFN status and reciprocal export credits and called for a substantial increase in bilateral trade. Only after signing this trade agreement did the Nixon administration finally relax its unilateral export controls as originally mandated by the EAA in 1969, some of which had been on the list since 1949. The number of unilaterally controlled categories on the list was reduced from 550 to 73 in about six months.

Thus, the Nixon administration's policy of tactical linkage of trade and politics appeared to work. Moreover, the empirical results strongly suggested the correctness of the original analysis performed by the State Department for tactical linkage regarding the Soviet Union: the Soviet Union was not as interested in trade, *per se*, as it was interested in *American* trade. That is, the Soviets received nothing of economic value in trade with the United States that it could not have received from the other members of CoCom.³³ But only the United States could bestow superpower status on the Soviet Union.

The Nixon administration soon learned to its chagrin, however, that Congress could play the game of tactical linkage also. For Congress still controlled the granting of MFN status, and the Jackson-Vanik amendment to the Trade Reform Act of 1974 promised to withhold MFN status from any country that restricted or taxed emigration of its citizens.³⁴ Although the stated purpose of the amendment was to aid the emigration of Soviet Jews leaving for Israel, it was a transparent attempt to sabotage the trade agreement by members of Congress who opposed détente. The amendment passed in December 1974 despite strenuous lobbying by Kissinger

(Nixon had resigned) on the grounds that the measure would not only limit the symbolic value of the trade relationship, but would be viewed as a violation of their sovereignty. Kissinger was correct in his analysis. Within a few days after President Ford signed the Trade Reform Act, the Soviets, abrogated the entire trade package of 1972 on the grounds of interference in their internal affairs. Later attempts by the Ford administration to revive MFN status for the Soviet Union failed. Passage of the Jackson-Vanik Amendment signaled the end of the Nixon-Kissinger tactical linkage strategy.

Nevertheless, the tactical linkage strategy was not yet dead: the Carter administration would make an attempt to restore it. However, the Carter administration had to disavow the symbolic dependence of the Soviets on U.S. trade in order to convince Congress to reconsider MFN status and export credits. Instead of symbolism, the Carter administration would rely on substantive economic dependence. That is, the Carter administration's concept of tactical linkage involved the use of trade *denial* for political purposes. This in turn meant that CoCom could no longer be ignored, for while the United States was a unique supplier of symbolic benefits, such was certainly not the case for economic benefits. To be effective would clearly require multilateral cooperation. Reminiscent of the China differential crisis, other CoCom members publicly stated they would not condone the use of trade denial for political purposes.

When the Carter administration first revealed its tactical linkage strategy in 1978 in response to Soviet intervention in the Somalian-Ethiopian dispute, it placed oil exploration equipment on the U.S. control list and retracted a license already granted to a U.S. company to export a computer system to the Soviets. The administration also requested the cooperation of CoCom. These actions not only angered the international community, it also angered U.S. business firms because it meant that they would have to satisfy licensing requirements their

CoCom competitors did not. Furthermore, the attempt at tactical linkage was totally ineffective: France supplied the Soviets with the computer and under intense pressure from the U.S. business community, the Commerce Department granted all requests to sell oil drilling equipment. However, delays in the granting process were inevitable, and in at least one case, a \$200 million Soviet order was switched from a U.S. firm to a West European firm.³⁵ Because CoCom would not support trade denial for political purposes, the Carter administration's export controls could not provide leverage and could not influence Soviet behavior.

This last case also illustrates how the Executive had failed to adequately streamline the export control process following passage of the EAA.³⁶ The U.S. government took far longer than the governments of other CoCom members to make a determination on an export request. Delays and the resulting uncertainty seriously hampered the ability of U.S. firms to compete effectively. Many East European importers simply found it much more convenient to deal with other members of CoCom. Moreover, many small business firms in the United States lacked the resources necessary to absorb the cost of licenses and never made the attempt to compete.

The licensing delays were caused by two factors. First, the number of license requests throughout the 1970s increased faster than number of Commerce Department personnel. But a far more important reason, was that the Commerce Department was only the first player involved in the licensing process. The interagency licensing procedure³⁷ also included State, Defense, CIA, and, sometimes DOE. The process could literally take months. The Executive's failure to streamline the process was a deliberate decision, resulting from the policy of using trade denial for political purposes: tactical linkage preferred a lengthy process so that the government could maximize its ability to interfere if it were politically expedient to do so. Amendments made to the EAA in 1972, 1974, 1977, and 1979 were attempts to force the Executive to streamline the

process.³⁸ In general, the amendments attempted to constrain the Executive's ability to restrict exports for reasons of foreign policy (Congress has never attempted to restrict the Executive's ability to restrict exports for reasons of national security). In practice, however, such efforts have merely shifted denial responsibility from the Commerce or State Departments to the Department of Defense.

The legacy of the Nixon and Carter administration's attempt to use tactical linkage and trade denial for political purposes had one additional victim: the effectiveness of CoCom. Despite détente, CoCom remained formally committed to the multilateral strategic embargo regime that began in 1954. During the 1970s, controls were not interpreted uniformly among governments, enforcement was lax, the control list did not keep pace with technology changes, and exceptions were frequently granted. CoCom's viability was, in fact, very doubtful by the end of decade. Part of the decline of CoCom's effectiveness was due to the general relaxation of East-West tensions during détente and also to increased competition among CoCom members as they sought the Eastern export markets. But the far more crucial factor, however, was that the United States failed to provide effective leadership. The United States did not provide consistent discipline to CoCom, maintain support of non-CoCom suppliers, or alleviate the administrative burdens of the multilateral control system—all the behaviors it had exhibited during the previous decade. Moreover, U.S. behavior through much of the 1970s was inscrutable to other members of CoCom. On one hand, the United States remained concerned with the multilateral restriction of trade for national security purposes. On the other hand, U.S. export strategy of trade expansion often took precedence over the strategic embargo. However, the attempt to enforce multilateral trade denial for political purposes probably most damaged U.S. credibility and leadership.

Thus, the struggle to modify the U.S. export control policy of economic warfare during the 1960s finally culminated in passage of the EAA in 1969 and provided the opportunity to exercise the new export control strategy of tactical linkage. However, tactical linkage failed to influence Soviet behavior in accordance with U.S. preferences in both the Nixon and the Carter administrations, though for different reasons. Failure in the former was due to domestic politics; failure in the latter was due to the existence of alternative suppliers. Because U.S. trade expansion was driven by political, not economic purposes, U.S. firms entered the Eastern markets at a distinct disadvantage. This disadvantage was exacerbated by a deliberately complex interagency licensing procedure. Finally, CoCom became less effective mainly because the United States failed to adequately perform its leadership responsibilities. There was a decided lack of a clear U.S. policy commitment to CoCom and the United States exhibited inconsistent behavior. The United States had entered the decade with the hope that its political, economic, and strategic objectives in East-West trade could be maximized simultaneously. It clearly failed in all three areas.

The Renewal and Rejection of Economic Warfare (1980-1989)

As a result of this triple failure, the United States clearly was searching for a different export control policy by the end of the decade. The Soviet invasion of Afghanistan in December 1979 provided the push that once again set American export policy on the path to economic warfare. The Carter administration abandoned détente and returned to a more confrontational relationship with the Soviet Union: SALT II was deferred; the Carter doctrine and the grain embargo were announced; and all scientific, cultural, and economic exchanges were curtailed. Changes to the U.S. export control policy became inevitable, especially after the discovery that

Soviet troops were using equipment built with the help of U.S. and Western technology. Despite passage of the EAA Amendments of 1979 only a few months prior to the invasion, sanctions were employed that signaled the victory of the advocates of trade denial over those of trade promotion within the Carter administration. In terms of interagency politics, the sanctions signaled the dominance of Defense over Commerce and State and the return of economic warfare.

This section will first explore the logic of and the return to economic warfare between 1980 and 1984, considering both the political and strategic considerations.³⁹ It will then examine the effort and explain the failure of the U.S. attempt to gain CoCom support for the strategy of economic warfare.⁴⁰ Finally, the 1988 CoCom political agreement will be discussed in terms of the end of the Cold War and the dissolution of the Soviet Union.

The sanctions imposed by the Carter administration immediately following the Afghanistan invasion, some of which are mentioned above, can be considered to be conditional responses, prepared in principle to be lifted if the Soviets withdrew. However, the Carter administration also imposed new sanctions on the transfer of technology to the Soviet Union that were different in origin and intent. The sanctions were the product of an ongoing interagency assessment of the relationship between U.S. security interests and East-West technology transfer. Also, these sanctions were intended to remain in effect regardless of changes in Soviet behavior. They were made out of consideration for national security needs rather than foreign policy. As a first step, in January 1980 the Commerce Department froze all licenses for export to the Soviet Union, until a review of the U.S. export control policy could be completed. This review included the assignment of an interagency review committee to reconsider the national security implications of technology transfer to the Soviets. This committee focused on the extent that particular types of technologies contributed to Soviet military potential, their availability on the marketplace, and

their ability to be subject to effective CoCom control. The new set of export guideline developed by this committee were to have profound and enduring effects on U.S. and alliance export control policy.

As a second step, the Carter administration made the controls more restrictive by extending the scope of U.S. controls and also lowering the threshold of technological sophistication at which items would be subject to control. In addition, many militarily significant items that had previously not been on the list, such as certain types of lasers, electronic grade silicon, and equipment used to make integrated circuits were added.

The third step carried out by the Carter administration pushed U.S. export policy beyond a strategic embargo and into the province of economic warfare. It decided to control the export of "process know-how" of technologies that could be considered as being supportive of the military establishment whether or not the technology in question had direct military significance or not. This process know-how proposal resulted directly from the well-known Bucy Report⁴¹ published in 1976 that identified the key technology areas which were vital for maintenance of overall U.S. technological superiority and which should be afforded export protection. By adopting it, the administration tacitly accepted the economic warfare provisions of the report. The rationale for doing so was twofold: (1) to maintain the U.S. lead-time in the application of technology to military capabilities, and (2) to prevent the modernization of the Soviet industrial base which would indirectly lead to a greater defense productivity. The first objective, for the most part, could be met by the existing U.S. control list and the Military Critical Technologies List.⁴² However, the second objective ran counter to the underlying principles of the CoCom strategic embargo, since it would prohibit export of technologies not related directly to military capability.

The response of the member states CoCom can be anticipated. On the one hand, they accepted for serious consideration the items proposed by U.S. officials to be added to the multilateral control list. That is, they were willing to bolster the strategic embargo, even if their concern over the Afghanistan invasion was quite subdued compared to the U.S. reaction. On the other hand, they categorically rejected the process know-how proposal. Their rejection was more than simply a question of what was or was not an appropriate concern for CoCom. The allies proved unwilling to pursue economic warfare for fear of risking their political and economic stake in Soviet trade. That is, West European and Japanese exports to the Soviet Union during détente consisted primarily of advanced machinery, equipment, and turnkey plants. To deny such sales to the sectors of the Soviet economy that might be militarily relevant would be too large a price to pay. Thus, the invasion did not prevent CoCom members from continuing to export turnkey factories to the Soviet Union.

The Reagan administration came to Washington determined to treat East-West economic relations as a profound and immediate national security threat. The consensus view was that Western trade had significantly enhanced the Soviet ability to achieve military parity during the 1970s and thus posed a greater threat to Western security. The administration believed the most appropriate response, both for the United States as well as the Western alliance, was a strategy of economic denial. As a first step, it built on the Carter initiatives to strengthen the strategic embargo by expanding the control list. Although the proposed items were sometimes controversial and vetoed by CoCom, such controversy was minor compared to the administration's second step: a determined effort to carry out economic warfare against the Soviet Union. The Administration pushed for a program far more ambitious than the Carter program, both with regard to what it could accomplish and in their efforts to obtain the support of CoCom.

Economic warfare matched perfectly with the administration's attempt to isolate the Soviet Union politically and to cast doubt on its status as a responsible member of the international community. Economic warfare was especially attractive with respect to military security. First, it could be applied as a necessary defensive measure in response to a strategic threat. Moreover, the administration placed on even greater emphasis on the contribution of Western technology to Soviet-military efforts—both direct and indirect—than did Carter Defense Department. However, the Reagan administration also viewed economic warfare as an attractive strategic opportunity. For top officials believed the Soviet economy to be very constrained, perhaps on the verge of collapse. To these officials, the denial of technology would exacerbate their industrial woes. The abandonment of the Siberian pipeline deal, which they considered the key of their economic warfare strategy, would deny the Soviets a much needed annual hard currency windfall of about \$8 billion.⁴³

Overall, eliminating the Western contribution to the Soviet military would force the Soviets to either cut military spending and/or foreign commitments at the expense of their status as a superpower. Thus, economic warfare could play a major role in achieving U.S. national security goals and objectives. If the United States accelerated the arms race, economic warfare would make it difficult, perhaps impossible, for the Soviets to compete. Thus economic warfare can be viewed as an attempt to achieve the goals of horizontal escalation without engaging military forces.

Reagan administration officials did not unanimously embrace all of these views. There were two camps within the administration that diverged on how the United States should deal with its allies. Multilateralists, led by Haig, held the maintenance of harmonious alliance relations in the highest regard. Unilateralists such as Weinberger, however, believed the allies should be

coerced to participate in economic war, if required. They should be made to choose between loyalty to the United States and their commitments to East-West trade.

Based on the historical reaction of CoCom to economic warfare, the reaction of the other CoCom members is not surprising: they found economic warfare objectionable on both economic and political grounds and held opposing strategic views. The United States—less dependent of trade, engaged in an arms race, and more concerned with containing the Soviets globally—viewed the Soviet military and the Soviet economy as being closely integrated. Western Europe—more trade dependent, engaged neither in an arms race or global competition—considered the two to be more in isolation. Given the clear conflicts in interests and the belief on both sides that the issue was of one of vital national security interests, the stage was set for an alliance confrontation.

The Reagan administration and CoCom clashed over the imposition of sanctions in response to the Polish crisis, restricting Western export credits to the Soviet Union, and construction of the Siberian pipeline. The latter issue was the most controversial. When CoCom refused to participate in any of these economic warfare tactics, the Reagan administration responding by imposing retaliatory sanctions. For Western Europe, the price for failing to engage in economic warfare with the Soviet Union was a trade war with the United States. In the process, relations between the United States and the Western allies dropped to their lowest point since at least the Suez episode of 1956. The only beneficiary of this circumstance was the Soviet Union. What began as a U.S. effort to weaken the Soviet Union was instead evolving into a Soviet political triumph.

The final result of the United States and CoCom clash is well known. The Reagan administration learned by hard experience what the Truman and Eisenhower administrations knew by intuition. That is, the effort to force compliance with economic warfare would be too costly in

terms of alliance harmony. The Western alliance, and even CoCom, survived the pipeline. The threatened all-out trade war never got started. Tensions between CoCom and the Reagan administration never completely disappeared, but enough so, that the strategic embargo could be administered and enforced.

Negotiations that began in 1985 finally “culminated” in a political agreement in 1988 to complete the difficult task of implementing the agreed upon changes, such as streamlining the list and overhauling the review process. The unprecedented events between 1988 and today have made these implementing tasks irrelevant. For purposes of dual-use technology, CoCom no longer exists; it was formally disbanded in March 1994 after nearly three years of virtual inactivity. CoCom was born at the same time and as a result of the Cold War. When the Cold War ended, so did most of the rationale for the existence of CoCom. Looking back on the history of over forty years of CoCom’s existence we can ask the question: Were the conflicts that resulted from the efforts to engage in a multilateral regime of exports control worth the associated political and economic costs?

The Legacy of 45 Years of CoCom

This paper has presented three strategies for trade with an adversary: economic warfare, strategic embargo, and tactical linkage. The evidence presented in this paper strongly suggests that CoCom has only sustained one strategy for any period of time, the strategic embargo. The multilateral pursuit of economic warfare occurred only in CoCom’s infancy, during the Korean War. The Western European governments supported the U.S. policy of economic warfare only because they believed an attack by the Soviet Union in Western Europe was imminent. When the threat of war disappeared, so did support for economic warfare and without support, the United

States could not sustain any strategy except strategic embargo. A recurring theme of this paper is that despite America's far greater resources and strength, the much weaker allies have always managed to determine the course of the alliance strategy. That is, the broader strategic importance of the NATO alliance has eventually always been deemed much more critical to the national security interests of America than the narrower objectives of the economic issues involved in the conflict, even when the economic issues, themselves, were considered strategic. Moreover, the Western European and Japanese irritation with the United States over matters of policy have never been so great that they wished to forego the defense umbrella afforded by America.

One legacy of 40 years of CoCom is that the combination of America's far greater relative strength and the informal nature of the CoCom regime required that the United States take the leadership role in CoCom in order to ensure an effective organization. Sometimes America acquitted this leadership role exceptionally well, such as between 1958 and 1968. At other times, America has failed in that role.

Yet a far more important legacy of 40 years of CoCom is that Western governments agreed to the necessity of a multilateral strategic embargo and proved willing to participate in an export control regime to aid the coordination of their national policies. Yes, there have been differences of opinion in the approach to, and the enthusiasm for, CoCom's strategic embargo. Nevertheless, it is of paramount importance to recognize that this difference existed within the environment of an underlying consensus that the strategic embargo, coordinated multilateral, was a legitimate and necessary means to protect everyone's national security interests. The greatest legacy of CoCom is that a determined alliance of nations who sought peace and freedom stayed together for 40 years until it was no longer needed.

Were the conflicts worth the economic in political costs? As in all things, the answer to that question depends on one's perspective. But from this author's perspective the answer is best expressed by considering this fact: in 1994, the Western allies still exist. They may be angry at one another today, or perhaps they are in a good mood; they may be experiencing an economic boom or perhaps a downturn; and they are all competing with each other to get a larger share of the global economy. The important point is: the Western allies still exist. Such is not true regarding the Soviet Union. To the extent that CoCom helped determine this historical fact, CoCom was worth whatever it cost.

NOTES

¹ Statement of Senator Jake Garn, United States Congress, Senate Committee on Banking, Housing, and Urban Affairs, *East-West Trade and Technology Transfer* (Washington, D.C.: Government Printing Office, 14 April 1992), p. 4.

² Schmitt, Ronald W., "Export Controls Balancing Technological Innovation and National Security," *Issues in Science and Technology* (Fall 1984), volume 1, number 1, p. 117.

³ Bonker, Don, "Protecting Economic Interests," *Issues in Science and Technology* (Fall 1986), volume 111, number 1, p. 98.

⁴ The origins of the Cold War, the Truman Doctrine, and the policy of containment need not be recounted here, but useful sources include: Addington, Larry H., *The Patterns of War Since the Eighteenth Century* (Bloomington, Indiana: Indiana University Press, 1984), pp. 249-253; Acheson, Dean, *Present at the Creation: My Years in the State Department* (New York: W.W. Norton, 1969); Gladdis, John Lewis, *The United States and the Origins of the Cold War 1941-1947* (New York: Columbia University Press, 1972); and Hartman, Frederick H. and Robert L. Wendzel. *America's Foreign Policy in a Changing World* (New York: Harpers Collins, 1994), pp. 203-229.

⁵ Studies of the early postwar U.S. foreign economic policy and the origins and early years of CoCom include Carrick. R.I., *East-West Technology Transfer in Perspective* (Berkeley, California: Institute of International Studies, 1979), pp. 18-29; Cullen, Robert, editor, *The Post-Containment Handbook: Key Issues in U.S.-Soviet Economic Relations* (Boulder, Colorado: Westview Press, 1990), pp. 1-18 and 39-74; Ikenberry, G. John, David A. Luke, and Michael Mastanduno, editors, *The State and American Foreign Economic Policy* (Ithaca, New York: Cornell University Press, 1988), pp. 121-150; Libbey, James K., *American-Russian Economic Relations, 1770s-1990s: A Survey of Issues and References* (Claremont, California: Regina Books, 1989), pp. 71-90; and Office of Technology Assessment, *Technology and East-West Trade* (Montclair, New Jersey: Allenheld, Osmun and Company, 1981) (hereafter OTA), pp. 111-170.

⁶ The responsibility for export control policy was dispersed within three executive agencies: the Departments of Commerce, State, and Defense. As discussed later, this produced struggles for influence among agencies whose policy preferences sometimes conflict. As may be expected, Congress has at times asserted itself in the shaping of export control policy. See especially OTA, pp. 111-112; Cullen, *Post-Containment Handbook*, pp. 39-74; Ikenberry, *The State and American Foreign Economic Policy*, pp. 129-131; and William J. Long, "U.S. Export Control Policy," in Bertsch, Gary K., editor, *Controlling East-West Trade and Technology Transfer: Power, Politics, and Policies* (Durham, North Carolina: Duke University Press, 1988), pp. 30-36.

⁷ CoCom's 1994 17-nation membership included the NATO countries (except Iceland), plus Japan and Australia. The United States, Britain, France, Italy, the Netherlands, Belgium, and Luxembourg were the founding members. Norway, Denmark, Canada, and West Germany joined in 1950, Portugal in 1952, Greece and Turkey in 1953, Spain in 1985, and Australia in 1989. See OTA, p. 153 and Cullen, *Post-Containment Handbook*, p. 75.

⁸ Ibid., p. 75. Proscribed destinations eventually included Warsaw Pact members, the People's Republic of China, Albania, Mongolia, Vietnam, and North Korea.

⁹ Mastanduno, Michael, *Economic Containment: CoCom and the Politics of East-West Trade* (Ithaca, New York: Cornell University Press, 1992), p. 90.

¹⁰ See, for example, John R. McIntyre, "The Distribution of Power and the Inter-agency Politics of Licensing East-West High-Technology Trade," in Bertsch, Gary K., editor, *Controlling East-West Trade and technology Trade: Power, Politics, and Policies* (Durham, North Carolina: Duke University Press, 1988), pp. 97-133.

¹¹ Mastanduno, *Economic Containment*, pp. 39-63 and OTA pp. 85-96.

¹² OTA, p. 112

¹³ Ikenberry, *The State and American Foreign Economic Policy*, Table 1, p. 132. U.S. exports to Eastern Europe in 1948 were about one percent of total exports.

¹⁴ The number of restricted items increased from 144 to 246. See Mastanduno, *Economic Containment*, p. 92.

¹⁵ Total U.S. assistance to Western Europe in 1949, for example, was four times the amount of total trade between West and East Europe. Ibid., Table 2, p. 95.

¹⁶ Consider just some of the events that occurred during this time: the overthrow of the democratic government of Czechoslovakia, the Berlin blockade and the subsequent Berlin airlift, the detonation of a nuclear weapon by the Soviet Union, the "loss" of China, and the outbreak of the Korean War. The latter was probably the critical turning point. See Hartman, *America's Foreign Policy*, p. 209 and Addington, *The Patterns of War*, pp. 249-253.

¹⁷ Sources for U.S. and CoCom trade policy from 1954-1958 include Bertsch, Gary K., *East-West Strategic Trade, CoCom and the Atlantic Alliance* (Paris: The Atlantic Institute for International Affairs, 1983), pp. 14-15; Carrick, *East-West Technology Transfer*, pp. 22-23; Ikenberry, *The State and American Foreign Economic Policy*, pp. 142-146; and Libbey, *American-Russian Economic Relations* pp. 84-90.

¹⁸ Quotation is cited in Ikenberry, *The State and American Foreign Economic Policy*, p. 142.

¹⁹ The decision to forego the use of coercion was not unanimous among all elements within the executive agencies. Some elements of Defense were willing to cut off U.S. exports, while some in Commerce suggested eliminating military aid. The view of the State Department prevailed in this case. The President, of course, is the ultimate arbiter in any interagency conflict.

²⁰ Ikenberry, *The State and American Foreign Economic Policy*, p. 145.

²¹ Of course, this export policy had few real economic costs for the United States, given the low historical level of trade with Soviet bloc countries.

²² CoCom rules include an "exceptions" procedure under which individual members can ask for approval to sell a proscribed item to a proscribed country if it will not be used for military purposes. When used prudently, the exceptions procedure has increased the effectiveness of CoCom. In this case, however, where members were making arbitrary use of the procedure as a

way to circumvent a U.S. "political statement," it clearly weakened CoCom. See Mastanduno, *Economic Containment*, p. 16.

²³ The stalemate continued even after Britain unilaterally eliminated the differential. Too late, President Eisenhower, a strong supporter of alliance cohesion, intervened to eliminate the impasse. His intervention, however, paved the way for greater CoCom cooperation in 1959. See Mastanduno, *Economic Containment*, p. 100.

²⁴ Sources for U.S. and CoCom trade policy from 1958-1968 include Cirrick, *East-West Technology Transfer*, pp. 24-70; Libbey, *American-Russian Economic Relations*, pp. 91-116; Mastanduno, *Economic Containment*, pp. 107-139; OTA, pp. 114-115; and Roosa, Robert V., Michiya Matsukawa, and Armin Gutowski, *East-West Trade at a Crossroads: Economic Relations with the Soviet Union and Eastern Europe*, (New York: New York University Press, 1982), pp. 11-16.

²⁵ As part of the streamlining process, CoCom separated the controlled items into three lists: (1) munitions, (2) nuclear energy items, and (3) industrial or "dual-use" items that were capable of being used for both military and civilian purposes. Only the third list has proven to be controversial and is the list relevant to this paper. See Cullen, *Post-Containment Handbook*, p. 75.

²⁶ *supra*, note 23.

²⁷ The United States assured compliance through informal agreements with the Swiss and Swedish governments as well as using the threat of trade sanctions against private companies. Only the United States could exert pressure sufficient to guarantee compliance.

²⁸ Some time in the early to mid-1960s, U.S. concern about the export of *materials* to the Soviet Union was eclipsed by the concern about the transfer of dual-use *technology* to the Soviet Union.

²⁹ Cited in Mastanduno, *Economic Containment*, pp. 127.

³⁰ See, for example, Hanns-Dieter Jacobsen, "U.S. Export Control and Export Administration Legislation," it Rode, Reinhard and Jacobsen, Hanns-Dieter, editors, *Economic Warfare or Détente: An Assessment of East-West Relations in the 1980s* (Boulder, Colorado: Westview Press, 1985), pp. 213-225.

³¹ Sources for U.S. and CoCom trade policy from 1969-1979 include Bertsch, *East-West Strategic Trade*, pp. 15-24; Carrick, *East-West Technology Transfer*, pp. 40-70; Cullen, *Post-Containment Handbook*, pp. 107-161; Fatemi, Nasrollah., *While the United States Slept* (East Brunswick, New Jersey: Cornwall Books, 1982); Ikenberry, *The State and American Foreign Economic Policy*, pp. 151-177; Miles Kahler, "The United States and Western Europe: The Diplomatic Consequences of Mr. Reagan" in Oye, Kenneth A., Robert J. Lieber, and Donald Rothchild, *Eagle Defiant: United States Foreign Policy in the 1980s* (Boston: Little, Brown and Company, 1993), pp. 310-315; Libbey, *American-Russian Economic Relations*, pp. 91-116; Mastanduno, *Economic Containment*, pp. 143-219, OTA, pp. 115-122; and Rode, *Economic Warfare or Détente*.

³² The treaty guaranteed the free flow of traffic between West Germany West Berlin. See Mastanduno, *Economic Containment*, p. 146.

³³ With the possible exception of grain.

³⁴ Hartman, *America's Foreign Policy*, pp. 143, 287, and 425.

³⁵ Mastanduno, *Economic Containment*, p. 156.

³⁶ General Accounting Office, *Export Controls: Need to Clarify Policy and Simplify Administration* (Washington, D.C.: General Accounting Office, 1979).

³⁷ OTA, pp. 126-144.

³⁸ OTA, pp. 117-126.

³⁹ Sources for the reasoning behind and the return to a policy of economic warfare include: Brown, Harold, *Thinking About National Security: Defense and foreign Policy in a Dangerous World* (Boulder, Colorado: Westview press, 1983); Central Intelligence Agency, *Soviet Acquisition of Militarily Significant Western Technology: An Update* (Washington, D.C., September 1985); Defense Science Board, *An Analysis of Export Control of U.S. Technology—A DOD Perspective* (Washington D.C.: Office of the Director of Defense Research and Engineering, 1976); Robinson, Roger W., *East-West Trade and National Security* (Washington, D.C.: The Heritage Foundation, 1996); Wienert, Heigard and Slater, John, *East-West Technology Transfer: The Trade and Economic Aspects* (Paris: Organization for Economic Cooperation and Development, 1986); and Yochelson, John N., *U.S. Global Economic Strategy: Challenges, Choices, and Priorities* (Washington, D.C.: The Center for Strategic and International Studies, 1999).

⁴⁰ Sources concerning the issue of technology transfer include: Melvern, Linda, Nick Anning, and David Hebditch, *Techno Bandits: How the Soviets are Stealing America's High-Tech Future* (Boston: Houghton Mifflin Company, 1984); National Academy of Sciences, *Balancing the National Interest: U.S. National Security Export Controls and Global Economic Competition* (Washington, D.C.: National Academy Press, 1997); Parrott, Bruce, editor, *Trade, Technology, and Soviet-American Relations* (Bloomington, Indiana: Indiana University Press, 1985); Perry, Charles M. and Pfaltzgraff, Robert L. Jr., editors, *Selling the Rope to Hang Capitalism?: the Debate on West-East Trade and Technology Transfer* (Washington, D.C.: Pergamon Brassey's, 1987); Department of Defense, *Assessing the Effect of Technology Transfer on U.S. Western Security: A Defense Perspective* (Washington DC: Office of the Under Secretary of Defense for Policy, 1985); Tolchin, Susan J., "Halting the Erosion of America's Critical Assets," *Issues in Science and Technology* (Spring 1993) volume IX, number 3, pp. 65-72, United States Congress, Joint Economic Committee, *East-West Technology Transfer: A Congressional Dialog with the Reagan Administration* (Washington D.C.: Government Printing Office, 1984).

⁴¹ Defense Science Board, *An Analysis of Export Controls of U.S. Technology—A DOD Perspective* (Washington D.C.: Office of the Director of Defense Research and Engineering, 1976).

⁴² Department of Defense, *The Militarily Critical Technologies List* (Washington D.C.: Office of the Under Secretary of Defense for Acquisition, 1992).

⁴³ Woods, Stan, *Pipeline Politics* (Aberdeen, Scotland: Centre for Defense Studies, 1983).

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